WINTERS OF 1917–1918 AND 1918–1919 COMPARED

	December						January						February					
	Mean Temp. °F.		Departure from Normal		Snowfall (Inches)		Mean Temp. °F.		Departure from Normal		Snowfall (Inches)		Mean Temp. °F.		Departure from Normal		Snowfall (Inches)	
	1917	1918	1917	1918	1917	1918	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919
Boston	23.7	34.7	− 7.9	+3.1	7.0	8.4	21.0	33.2	− 6.0	+ 6.2	13.8	4.1	26.9	32.6	−1.1	+4.6	5.7	6.2
New York	25.0	39.0	− 9.4	+4.6	11.7	0.4	21.6	35.2	− 8.6	+ 5.0	13.6	0.3	29.6	34.7	−1.1	+4.0	3.5	0.7
Washington	27.9	41.6	− 8.2	+5.5	6.8	T.	23.7	38.1	− 9.2	+ 5.2	22.6	0.5	36.8	37.2	+2.3	+2.7	1.5	2.8
Atlanta	36.2	48.2	− 8.4	+3.6	4.9	T.	34.8	43.8	− 7.4	+ 1.6	2.9	0.3	50.8	44.4	+5.6	−0.8	0.0	0.1
Cincinnati	22.3	41.8	−12.1	+7.4	16.3	1.0	16.3	35.2	−14.0	+ 4.9	20.2	0.2	34.5	34.4	+2.1	+2.0	T.	0.4
Chicago	22.4	37.7	− 6.9	+8.4	9.0	8.6	13.3	31.0	−10.4	+ 7.3	42.5	2.0	27.2	30.5	+1.8	+5.1	8.4	6.6
St. Paul	10.1	28.7	− 9.2	+9.4	7.1	6.7	3.7	21.8	− 7.9	+10.2	8.1	6.2	17.4	17.0	+2.4	+2.0	5.0	14.8
St. Louis	26.8	43.0	− 8.7	+7.5	7.5	0.5	18.8	37.8	−12.2	+ 6.8	11.7	0.7	35.6	36.7	+2.1	+3.2	0.2	3.1
Kansas City	23.4	39.4	− 8.1	+7.9	5.3	16.4	17.4	34.4	− 8.8	+ 8.2	10.3	1.0	34.0	34.2	+4.1	+4.3	0.1	13.1
Helena	24.2	28.5	− 0.6	+3.7	31.2	0.6	21.0	32.4	+ 1.0	+12.4	13.4	1.4	23.7	20.4	+1.5	−1.8	5.2	12.5
Boise	43.2	29.6	+11.0	−2.6	T.	2.2	34.4	32.8	+ 5.1	+ 3.5	4.9	0.4	36.0	35.8	+2.2	+2.0	3.2	6.3
Santa Fe	38.2	27.0	+ 7.9	−3.3	0.7	14.4	26.2	24.4	− 2.3	− 4.1	22.7	1.7	35.8	27.2	+3.8	−4.8	1.7	7.6

The region west of the Rockies, which was so warm in the winter of 1917–1918, was generally unusually cold in December, 1918, and in much of Utah, northern Arizona and New Mexico, where the depth of snow was great, in January, and much of February, 1919, as well. Throughout the rest of the region, the past winter was not very unusual.

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SPECIAL ARTICLES

A POSSIBLE CASE OF INSTINCTIVE BEHAVIOR IN THE WHITE RAT

Yerkes and Bloomfield[1] demonstrated that kittens instinctively kill mice but barely implied the instinctive behavior of the mice used. Berry[2] states that mice do not show any fear of cats. The following single observation seems to suggest that white rats do instinctively fear cats. An entirely accidental circumstance furnished a situation in which a young cat came into the presence of several cages of white rats. Although the cages were some feet above the cat, its behavior was quite comparable to that described by Yerkes and Bloomfield. In spite of the intensity of the olfactory stimulus in the room, the reaction of the cat did not take place until the visual stimulus was presented.[3] A periodic and almost spasmodic humping of the back and bristling hair, but entire lack of vocal sounds, were the prominent features. Several minutes produced no change in the situation save that the cat, although making no effort at all to reach the cages, became a little restless. When, however, the cat was placed upon a cage containing five white rats (female) about six months old, their behavior was very definite and specific. The cat responded to the new situation—being high in the air with unsafe footing—by paying no attention to the rats but rather evidencing some fear. The rats retreated to the rear of the cage uttering peculiar whines, and showing other evidences of fear. The cat was then removed and an effort made to feed the rats. A specific vocal sound made by the experimenter has always been sufficient to call the rats to the front of the cage where they are given small bits of cheese. This stimulus has been so grafted on to the feeding reactions that it invariably awakens the rats immediately from sleep, or calls the female from a litter, and, subsequent to the incident described, has repeatedly become prepotent over states of fear produced in other ways. Although over thirty-six hours

[1] "Do Kittens Instinctively Kill Mice?" *Psychol. Bull.*, 1910, 7, pp. 253–263.

[2] Berry, C. S., "An Experimental Study of Imitation in Cats," *J. of Comp. Neurol. and Psychol.*, 1908, 18, pp. 1–25. (Quoted by Yerkes and Bloomfield.)

[3] See Yerkes, *et al., op. cit.*, p. 262.

had elapsed since the last feeding time, it was only by continuous and patient effort that the rats were induced to come forward and take bits of cheese offered. Instead of jumping to some corner to enjoy the morsel undisturbed, however, they huddled together in one place, intermittently whining. An hour later they had eaten their cheese but had not moved from the corner and one was still whining.

A simple test was made in the following manner. The cat was handled and petted a few moments and then an attempt was made to secure a male rat from a near-by cage. The rats are handled so frequently that they ordinarily climb over the hand and lightly bite here and there in search of food. On this occasion, however, the behavior was exactly comparable to that found with the females. In the first case the response might have been to the situation—unfamiliar olfactory and auditory stimuli; and in the second to the situation—unfamiliar odor.

The rats here observed represent ten generations of inbreeding. The writer is positive that during the time he has worked with them no cat has been in the room or near the room. Some such odors may have been carried in the clothing of experimenters, however, but this on close examination seems unlikely. At no time or under any other circumstances has he observed such a specific and definite reaction to a situation as here illustrated. A few hours later the behavior of all the rats was experimentally normal in every way. This observation has suggested the desirability of pursuing a definite experimental method in the problem. An effort will be made to control all the variable factors attending a chance observation and to make some definite statement as to the specific original behavior in this particular situation. It may be that a similar reaction can be evoked by a distinctively strange stimulus. That is, the behavior here illustrated may not be specifically related to the situation —certain unfamiliar qualities of olfactory and auditory stimuli. Any other new stimulus may arouse such reactions, the necessary component of the total perception being just the unfamiliarity or strangeness and not the specific feline odor. It will be quite possible to take a litter of young and provide appropriate stimuli, the responses to which can be scrupulously noted. Variations in age and sex, variations in the situations provided, variations in feeding periods, etc., and a comparative study of the behavior of the wild Norway rat under similar conditions, should throw some light on this particular form of original behavior.

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THE AGRICULTURAL LIBRARIES SECTION OF THE AMERICAN LIBRARY ASSOCIATION

A MEETING of the Agricultural Libraries Section of the American Library Association was held at Asbury Park, N. J., June 26, 1919. About forty persons were present, including representatives from the Agricultural College libraries of Indiana, Iowa, Kansas, Massachusetts, Missouri, Montana, New Jersey, North Dakota, Vermont and West Virginia and thirteen from the U. S. Department of Agriculture.

Miss Dixon sketched the accomplishments of the Agricultural Libraries Section since its first meeting at Mackinac in 1910, among the most notable which was the bringing about of the publication of the Agricultural Index by the H. W. Wilson Company.

Mr. Milton J. Ferguson, librarian of the California State Library, in a paper entitled "Getting Books to the Farmer in California," described the county library system, the latest development in the state system, which includes all library activities, municipal, state and others, and which shows the energy, foresight and cooperative spirit, which the state of California exhibits in so many fields.

The paper by Miss Marjorie F. Warner, bibliographical assistant, Bureau of Plant Industry, U. S. Department of Agriculture, on "Bibliographical Opportunities in Horticulture," discussed the need of research in connection with the history of cultivated plants and of horticulture; giving illustrations from work which has been done, specifying certain undertakings which should appeal to agricultural librarians, and concluding with a plea for more scholarly research in bibliography both as an individual asset and as adding to the reputation of our libraries.